

Proposition No. 1

That the article of the Constitution on "Expulsion of members" be amended by the addition of these words:

"Such expulsion shall require a two-thirds vote of the members present at the meeting, and shall not be voted unless the charges of unworthiness have been submitted in writing, and the member has been given an opportunity to defend himself against the charges."

Proposition No. 2

That the article of the Constitution on "Amendments" be amended by striking out all after the words "the next regular or special meeting" and the substitution of the words:

"The proposed amendment shall then be sent by the Secretary to each member; printing a proposed amendment in any regular publication of the Club shall be deemed equivalent to a personal notice sent to each member. The votes received by the Secretary within thirty days shall be canvassed by the President, Secretary, and Treasurer, and the result announced at the next meeting of the Club. From such announcement shall date the adoption or rejection of the proposed amendment. Two-thirds of the votes cast shall be required for its adoption."

These amendments were referred to the above mentioned committee for report.

The scientific part of the program consisted of an illustrated lecture by Dr. John M. Arthur of the Boyce Thompson Institute, entitled "Some effects of carbon dioxide and light upon plant development." A summary of the lecture, kindly supplied by Dr. Arthur, is given below:

The data presented included four different series of experiments as follows:

1. Plants grown in a greenhouse in ordinary daylight during the winter months.
2. Plants grown in a greenhouse with daylight plus six hours of artificial light from a gantry crane carrying forty-eight 1,000 watt lamps, both with and without additional carbon dioxide.
3. Plants grown entirely under artificial light in the constant light room. This room was illuminated by twenty-five 1,500 watt lamps.

4. Plants grown in a series of colored glass houses in which increasing amounts of ultra violet and blue regions of sunlight were screened out.

A series of slides showing the equipment and some of the results on the general growth habit and flowering of the plants was included.

From the data presented the following conclusions were drawn:

1. Plants can be grown under artificial light using the gas-filled incandescent type of lamp as a source. Many plants are injured by continuous 24 hour exposure to artificial light. The tomato is a good example of the maximum injury of this sort.

2. A combination of 12 hours natural daylight and 6 hours artificial light with additional carbon dioxide gas will produce apparently normal plants. Eighteen hours of continuous artificial light produces much more injury.

3. The time and amount of flowering is controlled in some plants by the length of day, using either artificial or natural daylight as a source as was first pointed out by Garner and Allard of the U. S. D. A. Long day plants are attuned to flower on the long days of summer while short day plants flower on the short days of spring or fall. Flowering in other plants is not greatly affected by the length of day. These are the so-called "ever blooming" plants. These considerations apply to both natural daylight and artificial light. The salvia was shown as an example of a short day plant; lettuce and radish as long day plants, and buckwheat as an "ever blooming" type.

4. Plants show very little difference in growth habit or time and amount of flowering whether they receive the ultra violet of sunlight or whether this region is cut off down to 390 millimicrons. Certain colors are developed to a greater degree with ultra violet light. When the blue region is screened out of sunlight the plants grow in general much taller, show a lower dry weight and less flowering and fruiting. The blue is apparently necessary for producing both the normal form of plants and in photosynthesis.

ARTHUR H. GRAVES,
Secretary.

NEWS NOTES

Stanford University is planning a large botanical garden. One thousand acres of land have been set aside for the garden, which will be both an exhibition garden and an experimental laboratory. One million dollars is to be raised for the work of making the garden and more for endowing it. When completed it will be one of the finest in the world.

The appointment has recently been announced of Dr. Orland E. White, at present curator of plant breeding and economic plants at the Brooklyn Botanic Garden, as professor of agricultural biology and director of the Blandy Experimental Farm of the University of Virginia. In connection with the work at the experimental farm, five research fellowships have been established; two carrying a stipend of \$1000 each, and three \$500. The holders of these fellowships will be exempt from paying tuition fees. Graduates of standard colleges who have majored in biology or agriculture will be eligible candidates. Appointees are expected to register in the graduate department at the University of Virginia and to take work leading to a higher degree. The Blandy Experimental Farm has been acquired by the University of Virginia under the devise of the late Graham F. Blandy.

Over 200 varieties of the Bearded Iris are now growing in various parts of the Brooklyn Botanic Garden. The Garden has also between 200 and 300 Beardless Iris, which are being raised under various environmental conditions to determine experimentally what factors suit their growth best. The different varieties, as they flower, are being carefully reproduced in water color by Miss Maud Purdy, with the aim of placing the whole group, in which at present considerable nomenclatural confusion exists, on a definite scientific basis. This work is in charge of Dr. George M. Reed, Curator of Plant Pathology at the Brooklyn Botanic Garden, and is being carried on in coöperation with the American Iris Society. The Society held its annual meeting at the Garden on June 3.

Non-resident members of the Club, who are scattered throughout the United States and in foreign countries, will be interested to learn of the affiliation of the Club with the American Association for the Advancement of Science. This action took place

at the recent spring meeting of the executive committee of the American Association. According to the records at the time of that meeting the Torrey Botanical Club has 300 members, of whom 149, or nearly one-half, are members of the American Association for the Advancement of Science. Of these 149, 104 are fellows. The Torrey Botanical Club will accordingly have two representatives in the council of the American Association, who are to be ex-officio members of the section committee of Section G. A full report of this business will be included in the minutes of the meeting of the Club of May 25.

At Bear Mountain the Interstate Park Commission and the American Museum of Natural History are coöperating in an extensive outdoor museum. One feature of this will be a wild plant trail with all the plants native to the region labeled, with notes of interest with each. Several thousand plants have been brought in from other parts of the park and planted along this trail. Another trail will have along it all the native wild animals of the region, in cages. The work is in charge of Mr. William Carr of the American Museum.

On May 17th Mr. Barbour Lathrop of San Francisco died in Philadelphia. Mr. Lathrop was in his 80th year. He had travelled extensively collecting rare plants, many of which he sent to the Bureau of Plant Industry of the Department of Agriculture.

Dr. William P. Wilson, formerly professor of botany at the University of Pennsylvania and since 1894 director of the Philadelphia Commercial Museums, died on May 12, aged eighty-three years.

Dr. Edwin B. Payson, Professor of Botany at the University of Wyoming died on the fifteenth of May. He was well known for his contributions in systematic botany and had been very prominent in social and intellectual activities of the University. At the time of his death he was preparing to sail for Europe to carry on research work at Kew Gardens under a Guggenheim fellowship awarded him this spring in recognition of his achievement in botanical work. Dr. Payson was a member of many scientific and honorary societies. He was thirty four years old.